

### **Replies to reviewer's technical suggestions**

We corrected almost all technical points the reviewer identified in our final manuscript. We did not follow the following technical points:

We did not specify a range for the excess electrons in the summary as suggested by the reviewer. This is one parameter that requires better quantification and we did not want to imply that we know the exact range.

The legend and caption in Figure 11 are correct and consistent with the colors used Figure 9.